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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,638	12/28/2001	Ranjit Gharpurey	TI-33516	5650

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EXAMINER
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LE, NHAN T

ART UNIT	PAPER NUMBER
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2685

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

67

## Office Action Summary

Application No.

10/032,638

Applicant(s)

GHARPUREY ET AL.

Examiner

Nhan T Le

Art Unit

2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-23 is/are allowed.
- 6) ☒ Claim(s) 1,6-11,16 and 17 is/are rejected.
- 7) ☒ Claim(s) 2-5 and 12-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al (US 5,513,387) in view of Stoter et al (US 20030026363).

As to claim 1, Saito teaches a gain control system, comprising: a plurality of gain control circuit (see fig. 11, numbers 7-10, col. 6, lines 36-56) that receives a gain control input signal from associated digital circuitry and generates a control signal in response to changes in the gain control input signal; and delay circuitry (see col. 8, lines 18-29) that receives the gain control input signal and outputs a delayed gain control signal according to the gain control input signal. Saito fails to teach the gain control circuit is a speed up circuit. Stoter teaches where the control circuit is the speed up circuit (see page 4, paragraphs 0039-0041). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Stoter into the system of Saito in order to quickly compensate the power error of the input power and the target power (as suggested by Stoter paragraphs 0039-0041).

As to claim 6, the combination of Saito and Stoter teaches the filter network comprising at least one variable gain amplifier (see Saito fig. 11, number 2, col. 6, lines

36-56) operative to amplify an input signal according to a gain selected based on the delayed gain control signal.

2. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al (US 5,513,387) in view of Stoter et al (US 20030026363) further in view of Rahman et al (US 6,560,447).

As to claim 7, the combination of Saito and Stoter teaches the filter network further comprising at least one filter operatively coupled to receive the amplified signal from the amplifier, the associated filter having a filtering characteristic that varies based on the speed-up control signal. Rahman teaches one filter operatively coupled to receive the amplified signal from the amplifier, the associated filter having a filtering characteristic that varies based on the speed-up control signal (see col. 4, lines 37-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Rahman into the system of Saito and Stoter in order to maximize the saving (as suggested by Rahman col. 4, lines 43-45).

As to claim 8-9, the combination of Saito, Stoter and Rahman teaches the filter comprising a high-pass filter and the filtering characteristic comprising a corner frequency of the high-pass filter (see Rahman col. 4, lines 37-65).

As to claim 10, the combination of Saito, Stoter and Rahman teaches section of a direct conversion receiver (see Saito col. 2, lines 40-60).

3. Claims 11, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al (US 5,513,387) in view of Medvid et al (US 6,741,844) further in view of Stoter et al (US 20030026363).

As to claim 11, Saito teaches a directed receiver, comprising: a variable gain amplifier operative to amplify an input signal derived from a radio frequency (RF) signal, the gain of the amplifier being adjustable based on a gain control signal from an associated digital system (see fig. 11, numbers 2, 7, col. 2, lines 40-60, col. 6, lines 36-56). Saito fails to teach a filter operative to filter an amplified signal of the amplifier and provide a filtered output signal; control system that generates a control signal in response to changes in the gain control signal from the associated digital system and, the control system providing the control signal to the filter to adjust filter characteristics of the filter. Medvid teaches a filter operative to filter an amplified signal of the amplifier and provide a filtered output signal (see fig. 4, number 20, col. 2, lines 51-67, col. 3, lines 1-34) and a control system that generates a control signal in response to changes in the gain control signal from the associated digital system and, the control system providing the control signal to the filter to adjust filter characteristics of the filter (see col. 3, numbers 44, 46, col. 3, lines 7-34). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Medvid into the system of Saito in order to remove the spurious components and to reduce the interference (as suggested by Medvid col. 3, lines 31-34). The combination of Saito and Medvid fails to teach the control system is the speed up control system. Stoter teaches the control system is the speed up control system (see page 4, paragraphs 0039-0041). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Stoter into the

system of Saito and Medvid in order to quickly compensate the power error of the input power and the target power (as suggested by Stoter paragraphs 0039-0041).

As to claim 16, the combination of Saito, Medvid and Stoter teaches a delay system (see Saito col. 8, lines 18-29) operative to impose a delay associated with changes in the gain control signal and provide a corresponding delayed gain control signal to adjust the gain of the variable gain amplifier.

4. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al (US 5,513,387) in view of Medvid et al (US 6,741,844), Stoter et al (US 20030026363) further in view of Cloke (US 4,697,098).

As to claim 17, the combination of Saito, Medvid, and Stoter fails to teach delay System comprising a low pass filter. Cloke teaches a network in which comprises a delay and low pass filter (see col. 3, lines 23-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Cloke into the system of Saito, Medvid and Stoter in order to filter out high frequency noise.

#### ***Allowable Subject Matter***

Claims 2-5, 12-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding to claims 2, 12, the applied reference fails to teach a differentiator that receives the gain control signal and provides a differentiated signal as a function of the

gain control signal; and a pulse generator that generates the speed-up control signal based on the differentiated signal indicating a change in the gain control signal.

Claims 18-23 are allowed.

Regarding to claim 18, Saito et al (US 5,513,387) teaches automatic gain control circuit, Storter et al (US 2003/0026363) teaches adaptive automatic gain control, Medvid et al (US 6,741,844) teaches receiver for audio enhancement and method thereof, Hofmeister (US 4,249,252) teaches time frequency recovery. The teaching of these prior arts either combine or alone fails to teach an analog speed-up control system for a direct conversion receiver, comprising a differentiator that receives a gain control signal from associated digital controls and provides a differentiated signal as a function of the gain control signal; and a pulse generator that generates the speed-up control signal based on the differentiated signal so as to control a filter characteristic of at least one associated filter.

Dependent claims 19-21 are allowed for the same reason.

Regarding to claim 22, Saito et al (US 5,513,387) teaches automatic gain control circuit, Storter et al (US 2003/0026363) teaches adaptive automatic gain control, Medvid et al (US 6,741,844) teaches receiver for audio enhancement and method thereof, Hofmeister (US 4,249,252) teaches time frequency recovery. The teaching of these prior arts either combine or alone fails to teach a method for implementing speed-up mode control for an analog portion of a direct conversion receiver based on an input gain control signal provided by an associated digital portion the receiver, the method comprising differentiating the input gain control signal to provide a differentiated signal;

generating a speed-up control signal based on the differentiated signal indicating a change in the input gain control signal.

Dependent claim 23 is allowed for the same reason.

***Response to Arguments***

Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T Le whose telephone number is 703-305-4538. The examiner can normally be reached on 08:00-05:00 (Mon-Fri).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 703-305-4385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nhan T. Le

*Nguyen T. Vo*  
2-22-2005

NGUYENT.VO  
PRIMARY EXAMINER